

**BEST AVAILABLE COPY****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of	) Examiner Janelle Combs Morillo
	)
Venema et al	) Group Art Unit 1742
	)
Serial No. 10/706,846	) Atty. Docket # 4430-031234 (03-1257)
	)
Confirmation No. 6084	)
	)
Filed 11/12/2003	) December 21 , 2005
	)
For METHOD OF MANUFACTURING	)
A NEAR-NET SHAPE ALLOY	)
PRODUCT	)

---

**Rule 1.131 Declaration**

I, Jeffrey J. Witters, an employee of ALCOA, declare and state:

- (1) The invention described in the above referenced patent application was invented by myself and other ALCOA personnel prior to February 13, 2003.
- (2) United States Patent Application 2004/0182483 by Heymes et al, was cited against the present application in an Office Action dated August 25, 2005.
- (3) The priority date for the Heymes application is based on the United States Provisional Patent Application having serial number 60/446,993 filed on February 13, 2003.

(4) I have reviewed a proposal dated January 7, 2003 that to the best of my knowledge, information and belief was sent by ALCOA to the Puget Sound Wing Group at Boeing Aircraft Corporation on or before January 9, 2003.

(5) The proposal to the Puget Sound Wing Group at Boeing Aircraft Corporation is a rough order of magnitude quotation for a machined panel and is identified as confidential information.

(6) One line in the proposal states: "Plate produced in F-temper prior to machining. Machined panel brought to DVPT for SHT+Q+STR+AGE to T7651".

(7) The following definitions in the line quoted above in Paragraph (6) are understood by ALCOA and Boeing personnel interacting on the proposal:

DVPT refers to the ALCOA plant at Davenport, Ohio.

SHT means to solution heat treat.

Q means to quench.

STR means to stretch

AGE refers to artificial ageing

T7651 is a specific temper

(8) ALCOA and Boeing personnel understood that the alloy was the Aluminum Association 7085 alloy. (Previous communication between ALCOA and Boeing had established that the code LW-P3, which appears in the proposal, referred to AA 7085.)

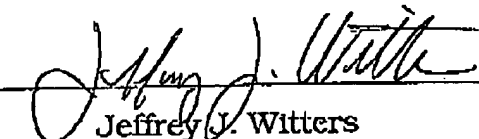
(9) The steps set forth in the quoted section in Paragraph 6 above read directly on Claims 1-8 of the subject application, provided that it is understood that the plate was obtained from an ingot by rolling.

(10) It is my belief that both Boeing personnel and Alcoa personnel understood that the plate would be obtained from an ingot by rolling.

(11) I have reviewed an E-mail dated which, to the best of my knowledge, information and belief, was sent by Michael B. Giuffre (Boeing) to Dan Goodyear (ALCOA) on February 6, 2003. The E-mail indicates that Boeing received the ALCOA quotation, reviewed it and responded prior to February 13, 2003. The E-mail includes six pages of dimensioned sketches that, to the best of my knowledge, information and belief, are proprietary to Boeing.

Declarant further declares and states that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,

  
Jeffrey J. Witters

2005 DEC 21

Date

Venema, et al.  
 USSN 10/706,846  
 Filed: November 12, 2003

Boeing Yellowstone - 777 Lower Wing  
 Alcoa Rough Order of Magnitude (ROM) Quotation

Option	Panel No.	Product	Alloy-Temper	Panel Configuration (see attachments)	Width (in)	Length (in)	No. Stiffeners	X-Dimension (in)	Panel Weight (lb)	Risk (L,M,H)	Potential Price (\$/lb)	Price (\$)	Price per SS (\$)
Option 1b: Plate produced in F-temper prior to machining. Machined Panel brought to DVPT for SHT+O+STR+AGE to T7651.													
1b	1	Plate	LW-P3	B	71	1122	10	2.85	14,712	M	\$6.00	\$68,269	
1b	2	Plate	LW-P3	B	72	1159	10	3.35	15,304	M	\$5.78	\$68,459	
1b	3	Plate	LW-P3	B	71	856	10	2.85	11,342	M	\$7.13	\$60,867	
Totals =>												\$257,594	\$515,188
Option 2a: Extrusions produced @ LAF only.													
2a	1	Extrusion	LW-E3	A	24	263	3	3.85	905	L	\$7.25	\$5,584	
2a	2	Extrusion	LW-E3	A	24	689	3	3.85	2,323	L	\$7.25	\$16,878	
2a	3	Extrusion	LW-E3	A	30	1128	4	3.35	4,863	L	\$6.75	\$32,850	
2a	4	Extrusion	LW-E3	A	30	1142	4	3.35	4,929	L	\$6.75	\$33,268	
2a	5	Extrusion	LW-E3	A	30	1116	4	3.35	4,816	L	\$6.75	\$32,510	
2a	6	Extrusion	LW-E3	A	26	889	3	4.85	3,177	L	\$7.25	\$23,036	
2a	7	Extrusion	LW-E3	A	25	653	3	4.35	2,413	L	\$7.00	\$16,888	
2a	8	Extrusion	LW-E3	A	26	511	3	4.35	1,779	L	\$7.00	\$12,453	
Totals =>												\$174,455	\$348,910

Notes:

- The estimated prices provided above are not part of an existing contract between Alcoa and the recipient for the sale of Alcoa alloy products. The provision of these estimates to the recipient does not constitute an offer by Alcoa to sell the Alcoa alloy products to recipient, nor will any attempt by recipient to accept such estimates for the specified Alcoa alloy products create a contractual relationship between Alcoa and the recipient for the sale and purchase of such products. The estimated prices are provided to the recipient by Alcoa solely for the purposes of facilitating trade study estimates and rough product comparisons as part of the recipient's planning activities. Alcoa makes no representations or warranties concerning the suitability for any use or the availability of the Alcoa alloy products. These estimates are subject to changes in design and alloy development are better established.
- Potential Price (\$/lb) dependent upon achieving desired future cost reductions and volume/share objectives.
- Special Testing, Excess Transportation and Packaging not included.
- All Pricing is RC33 (Rough Order of Magnitude).
- All Pricing Assumes 2003 Deliveries.
- Estimates are valid for 30 days from 2603 JAN 07

Alcoa Proprietary Background Information (Level 5)

Boeing Yellowstone - 777 Upper Wing  
 Alcoa Rough Order of Magnitude (ROM) Quotation

Option	Panel No.	Product	Alloy-Temper	Panel Config.	Width (in)	Length (in)	No. Stiffeners	X Dimension (in)	Panel Weight (lb)	Risk (L,M,H)	Potential Price (\$/lb)	Price per SS (\$)
Option 1: Plate produced in F-temper prior to machining. Machined Panel brought to DYPPT for SHT+Q+STH+AGE to T7751.												
1	1	Plate	7055-T7751	B	71	1122	10	2.85	14,712	M	5.98	\$87,975
1	2	Plate	7055-T7751	B	72	1159	10	3.35	15,304	M	5.58	\$85,397
1	3	Plate	7055-T7751	B	71	865	10	2.85	11,342	M	6.47	\$73,381
Totals =>												\$493,507
Option 2a: Extrusions produced @ LAF only.												
2a	1	Extrusion	7055-T7751	A	24	268	3	3.85	905	L	\$7.25	\$6,564
2a	2	Extrusion	7055-T7751	A	24	680	3	3.85	2,328	L	\$7.25	\$16,875
2a	3	Extrusion	7055-T7751	A	30	1128	4	3.35	4,868	L	\$6.75	\$32,860
2a	4	Extrusion	7055-T7751	A	30	1142	4	3.35	4,929	L	\$6.75	\$33,268
2a	5	Extrusion	7055-T7751	A	30	1116	4	3.35	4,818	L	\$6.75	\$32,510
2a	6	Extrusion	7055-T7751	A	26	889	3	4.85	3,177	L	\$7.25	\$23,036
2a	7	Extrusion	7055-T7751	A	25	693	3	4.35	2,413	L	\$7.00	\$16,888
2a	8	Extrusion	7055-T7751	A	25	511	3	4.35	1,779	L	\$7.00	\$12,453
Totals =>												\$348,910

Notes:

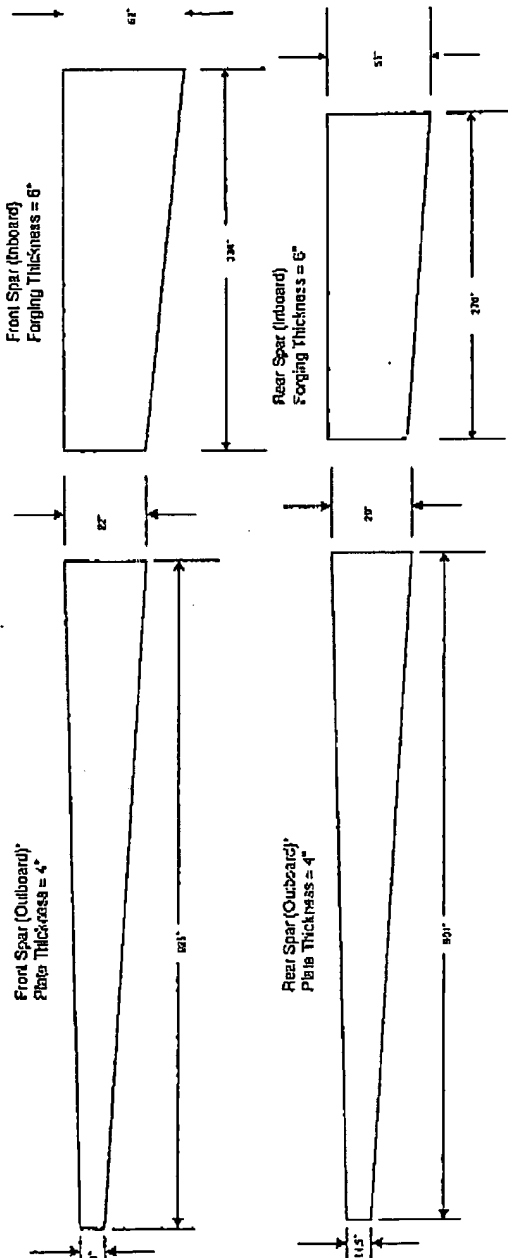
- The estimated prices provided above are not part of an existing contract between Alcoa and the recipient for the sale of Alcoa alloy products. The provision of these estimates to the recipient does not constitute an offer by Alcoa to sell the Alcoa alloy products to recipient, nor will any attempt by recipient to accept such estimates for the specified Alcoa alloy products create a contractual relationship between Alcoa and the recipient for the sale and purchase of such products. The estimated prices are provided to the recipient by Alcoa solely for the purposes of facilitating trade study estimates and rough product comparisons as part of the recipient's planning activities. Alcoa makes no representations or warranties concerning the suitability for any use or the availability of the Alcoa alloy products. These estimates are subject to changes the design and alloy development are better established.
- \*Potential Price (\$/lb) dependent upon achieving desired future cost reductions and volume/schedule objectives.
- Special Tooling, Excess Transportation and Packaging not included.
- All Pricing is ROM (Rough Order of Magnitude).
- All Pricing Assumes 2003 Deliveries.
- Estimates are valid for 30 days from 2003 JAN 07

Alcoa Proprietary Background Information (Level 5)

Boeing Yellowstone - 777 Wing Spar  
 Alcoa Rough Order of Magnitude (ROM) Quotation

Component	Quantity	Alloy/Temp	Recipients Dimensional Requirements					Shape Y095C (lb)
			1	2	3	4	5	
Front Inboard	Forging	7065-T7652	6	62	334	0.103	12.798	8.669
Front Outboard	Plate	7065-T7651	4	22	925	0.103	8.364	8.263
Rear Inboard	Forging	7065-T7652	6	55	273	0.103	9.177	7.003
Rear Outboard	Plate	7065-T7651	4	20	901	0.103	10.763	8.074

RHS (L-414)	Price (\$/lb)	RHS (lb)	Price per BS (\$)
L	\$2.17	\$79,500	\$163,532
L	\$3.73	\$23,632	\$88,264
L	\$3.97	\$63,500	\$252,053
L	\$3.97	\$22,053	\$87,553
L			\$191,106



\* Note: Front and Rear Inboard Spans will be quoted in forged stock by AWFD

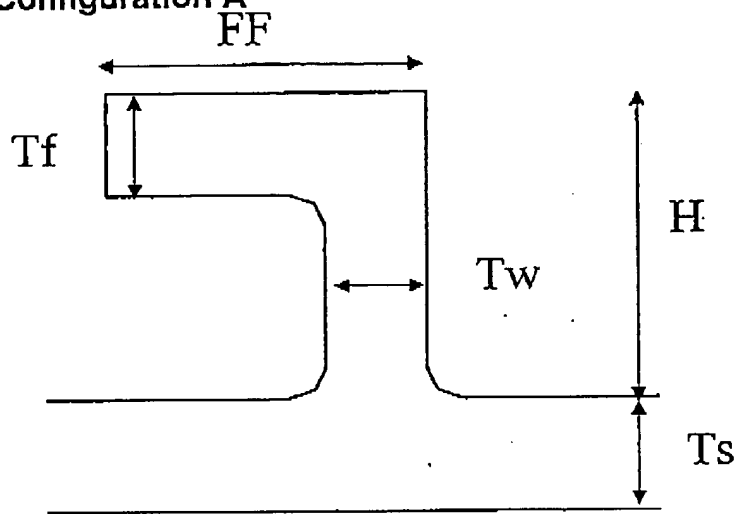
Notes:

- 1) The estimated prices provided above are not part of an existing contract between Alcoa and the recipient for the sale of Alcoa alloy products. The provision of these estimates to the recipient does not constitute an offer by Alcoa to sell the Alcoa alloy products to the recipient, nor will any attempt by the recipient to accept such estimates (or the proposed Alcoa alloy products) create a contractual relationship between Alcoa and the recipient for the sale and purchase of such products. The estimated prices are provided to the recipient by Alcoa solely for the purposes of facilitating study estimates and rough product comparisons as part of the recipient's planning activities. Alcoa makes no representations or warranties concerning the suitability for any use or the availability of the Alcoa alloy products. These estimates are subject to change as the design and development are later established.
- 2) Potential risks (SLB) associated with the design and development and subsequent production are not included.
- 3) Special Tooling, Fixtures, Transportation and Packaging not included.
- 4) All Prices in ROM (Rough Order of Magnitude).
- 5) All Prices Assume 2003 Delivery.
- 6) Estimates are valid for 30 days from 2803 JAN 07.
- 7) Forging Potential Price includes USI and finished surfaces for business control.

Alcoa Regulatory Background Worksheet (Level 5)

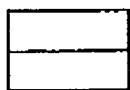
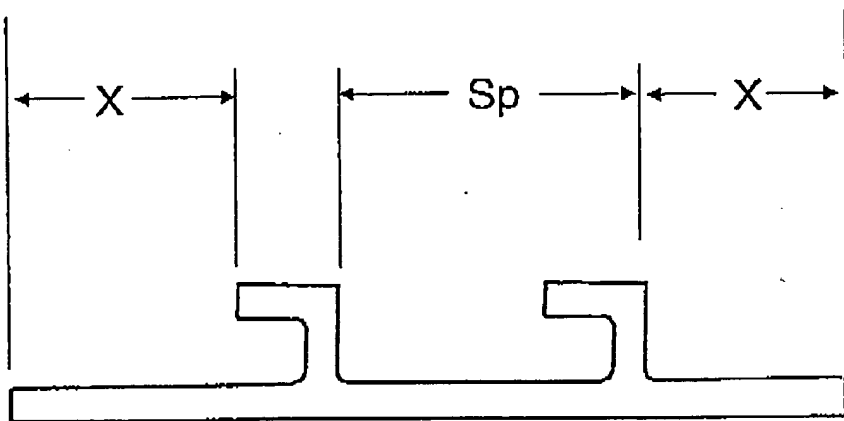
Venema, et al.  
 USSN 10/706,846  
 Filed: November 12, 2003

Boeing Yellowstone - 777  
 Lower Wing Cover LW-E3  
 Plank Configuration A



	Sp	Ts	Tw	Tf	FF	H
Extrusion	7.00	0.95	0.75	0.90	2.30	2.60

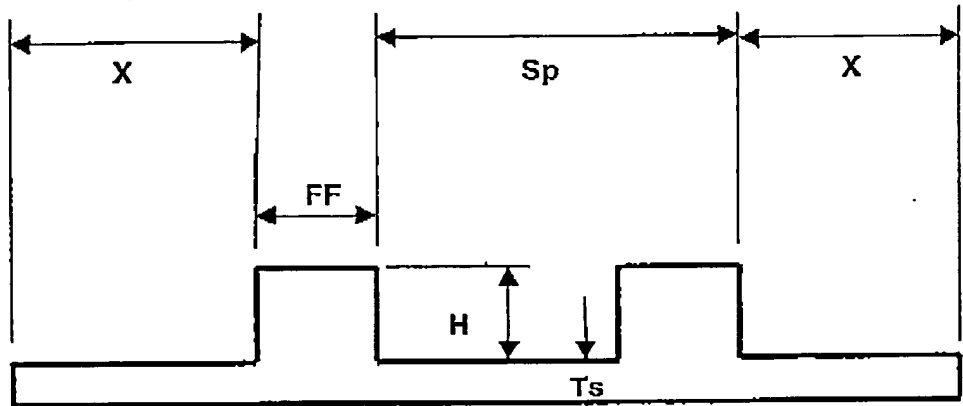
Venema, et al.  
USSN 10/706,846  
Filed: November 12, 2003





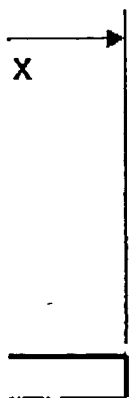
Venema, et al.  
USSN 10/706,846  
Filed: November 12, 2003

**Boeing Yellowstone - 777  
Lower Wing Cover LW-E3  
Plank Configuration B**



	Sp	Ts	FF
NNS Plate	7.00	0.95	2.30

Venema, ct al.  
USSN 10/706,846  
Filed: November 12, 2003



H	
2.60	

Vencma, et al.  
 USSN 10/706,846  
 Filed: November 12, 2003

Boeing Yellowstone - 777 Lower Wing  
 Appendix 1 - Alternate Configurations

Option	Part No.	Product	Alloy-Temper	Panel Configuration (see attachments)	Width (in)	Length (in)	No. Elements	Dimensions (in)	Upper Width (in)	Size (L x W x H)	Potential Price (\$/lb)	Piece Price (\$)	Price per PS (\$)
Option 1a: Plate produced in T7651 temper prior to machining.													
1a	1	Plate	LW-P3	B	53.5	757	7	4.6	7.323	L	\$6.23	\$45,625	
1a	2	Plate	LW-P3	B	53.5	1140	7	4.6	10.885	L	\$7.11	\$77,301	
1a	3	Plate	LW-P3	B	53.5	1124	7	4.6	10.732	L	\$7.12	\$75,412	
1a	4	Plate	LW-P3	D	53.5	714	7	4.6	6.017	L	\$6.52	\$34,648	
Totals =>												\$243,977	\$497,756
Option 2a: Extrusions produced @ LAF													
2a	1	Extrusion	LW-E3	A	32	457	4	4.35	2.062	M	\$6.50	\$13,401	
2a	2	Extrusion	LW-E3	A	47	1124	5	5.35	6.440	H	\$8.50	\$51,812	
2a	3	Extrusion	LW-E3	A	41	1143	5	6.35	6.558	H	\$8.50	\$55,739	
2a	4	Extrusion	LW-E3	A	33	1086	4	4.85	4.917	M	\$8.75	\$33,191	
2a	5	Extrusion	LW-E3	A	33	817	4	4.85	3.762	M	\$8.75	\$25,390	
2a	6	Extrusion	LW-E3	A	35	598	5	2.35	8.080	M	\$5.50	\$27,808	
Totals =>												\$202,352	\$405,103
Option 3a: Plate-Extrusion Combination. All rectangular plate produced in T7651 temper prior to machining.													
3a	1	Extrusion	LW-E3	A	26	353	3	4.85	1.203	L	\$7.25	\$8,199	
3a	2	Plate	LW-P3	B	54	1126	7	4.85	10.409	L	\$7.11	\$76,053	
3a	3	Plate	LW-P3	B	54	1142	7	4.85	11.059	L	\$7.11	\$79,620	
3a	4	Plate	LW-P3	B	54	923	7	4.85	8.250	L	\$5.97	\$52,807	
3a	5	Extrusion	LW-E3	A	20	514	3	4.85	1.825	L	\$7.25	\$13,241	
Totals =>												\$210,817	\$461,635
Option 3b: Plate-Extrusion Combination. All rectangular plate produced in F-temper prior to machining. Machined Panel brought to DVPT for SHT+Q-STR+AGE to T7651.													
3b	1	Extrusion	LW-E3	A	35	479	5	2.35	2.467	M	\$8.75	\$18,651	
3b	2	Plate	LW-P3	B	72	1139	10	3.35	16.040	M	\$5.78	\$86,031	
3b	3	Plate	LW-P3	B	72	1139	10	3.35	15.040	M	\$5.78	\$86,031	
3b	4	Extrusion	LW-E3	A	35	574	5	2.35	2.958	M	\$8.73	\$19,354	
Totals =>												\$210,066	\$420,936

Notes:

- 1) The estimated prices provided above are not part of an existing contract between Alcoa and the recipient for the sale of Alcoa alloy products. The provision of these estimates to the recipient does not constitute an offer by Alcoa to sell the Alcoa alloy products to recipient, nor will any attempt by recipient to accept such estimates for the specified Alcoa alloy products create a contractual relationship between Alcoa and the recipient for the sale and purchase of such products. The estimated prices are provided to the recipient by Alcoa solely for the purposes of facilitating trade study estimates and rough product comparisons as part of the recipient's planning activities. Alcoa makes no representations or warranties concerning the suitability for any use or the availability of the Alcoa alloy products. These estimates are subject to changes in the design and alloy development as better established.
- 2) "Potential Price (\$/lb)" dependent upon achieving desired future cost reductions and volume/share objectives.
- 3) Special Testing, Excess Transportation and Packaging not included.
- 4) All Pricing is BOM (Gross Order of Magnitude).
- 5) All Pricing Assumes 2003 Dollars.
- 6) Estimates are valid for 90 days from 2003 JAN 07.

Alcoa Proprietary Background Information (Level 5)

Boeing Yellowstone - 777 Upper Wing  
 Appendix 2 - Alternate Configurations

Option	Panel No.	Product	Alloy-Temper	Panel Config.	Width (in)	Length (in)	No. Stiffeners	X-Direction (in)	Panel Weight (lb)	Risk (L,M,H)	Potential Price (\$/lb)	Place Price (\$)	Price per SS (\$)
Option 2b: Extrusions produced @ LAF and Russia													
2b	1	Extrusion	7055-T77511	A	32	457	4	4.35	2,082	M	\$6.50	\$13,401	
2b	2	Extrusion	7055-T77511	A	41	1124	5	6.35	6,449	H	\$8.50	\$54,812	
2b	3	Extrusion	7055-T77511	A	41	1143	5	5.35	6,558	H	\$8.50	\$55,739	
2b	4	Extrusion	7055-T77511	A	33	1068	4	4.85	4,917	M	\$6.75	\$33,191	
2b	5	Extrusion	7055-T77511	A	33	817	4	4.85	3,762	M	\$6.75	\$25,390	
2b	6	Extrusion	7055-T77511	A	35	598	5	2.35	3,080	M	\$6.50	\$20,018	
Totals =>												\$202,552	\$405,103
Option 3: Plate-Extrusion Combination. All rectangular plate produced in F-temper prior to machining.													
Machined Panel brought to DVPT for SHT+Q+STR+AGE to T7751.													
3	1	Extrusion	7055-T77511	A	35	479	5	2.35	2,467	M	\$6.75	\$16,681	
3	2	Plate	7055-T77511	B	72	1139	10	3.35	15,040	M	\$5.58	\$83,923	
3	3	Plate	7055-T77511	B	72	1139	10	3.35	15,040	M	\$5.58	\$83,923	
3	4	Extrusion	7055-T77511	A	35	574	5	2.35	2,958	M	\$6.75	\$19,954	
Totals =>												\$204,452	\$408,904

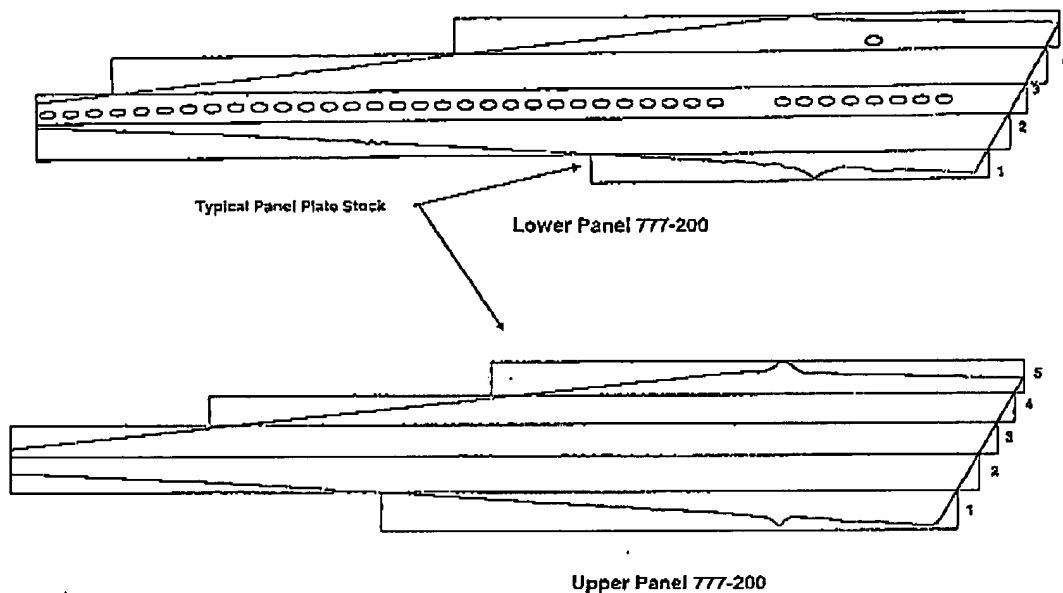
Notes:

- 1) The estimated prices provided above are not part of an existing contract between Alcoa and the recipient for the sale of Alcoa alloy products. The provision of these estimates to the recipient does not constitute an offer by Alcoa to sell the Alcoa alloy products to recipient, nor will any attempt by recipient to accept such estimates for the specified Alcoa alloy products create a contractual relationship between Alcoa and the recipient for the sale and purchase of such products. The estimated prices are provided to the recipient by Alcoa solely for the purposes of facilitating trade study estimates and rough product comparisons as part of the recipient's planning activities. Alcoa makes no representations or warranties concerning the suitability for any use or the availability of the Alcoa alloy products. These estimates are subject to changes the design and alloy development and better established.
- 2) "Potential Price (\$/lb)" dependent upon achieving desired future cost reductions and volume/share objectives.
- 3) Special Testing, Excess Transportation and Packaging not included.
- 4) All Pricing is RCM (Rough Order of Magnitude).
- 5) All Pricing Assumes 2003 Deliveries.
- 6) Estimates are valid for 30 days from 2003 JAN 07

Skin Panel Raw Material Study  
777-200  
(per wing)

Venema, et al.  
USSN 10/706,846  
Filed: November 12, 2003

Boeing 777 Upper and Lower Wing Skin (Plan View)  
Example of panel numbering convention



Skins - Raw Stock Weights (rev A)

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☒ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☒ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**